

IN THE CLAIMS:

- 1 1. (Original) A fuel for a direct methanol fuel cell comprising:
2 methanol, and
3 an effective amount of an additive that undergoes a reaction with water to produce
4 small molecules that are easily electro oxidized.
- 1 2. (Original) A fuel for a direct methanol fuel cell as in claim 1 wherein the addi-
2 tive is dimethyloxymethane.
- 1 3. (Original) A fuel for a direct methanol fuel cell as in claim 2, wherein the fuel
2 comprises about 20 mole percent dimethyloxymethane.
- 1 4. (Original) A fuel for a direct methanol fuel cell as in claim 3 further comprising
2 less than about .1% by weight of an indicating dye.
- 1 5. (Original) A fuel for a direct methanol fuel cell as in claim 4 where the indicating
2 dye includes sulfonated activated carbon particles.
- 1 6. (Original) A fuel for a direct methanol fuel cell as in claim 1 wherein the addi-
2 tive is methylorthoformate.
- 1 7. (Original) A fuel for a direct methanol fuel cell as in claim 6, wherein the fuel
2 comprises about 10 mole percent methylorthoformate.
- 1 8. (Original) A fuel for a direct methanol fuel cell as in claim 7 further comprising
2 less than about .1% by weight of an indicating dye.

- 1 9. (Original) A fuel for a direct methanol fuel cell as in claim 8 where the indicating
2 dye includes sulfonated activated carbon particles.
- 1 10. (Original) A fuel for a direct methanol fuel cell as in claim 1 wherein the additive
2 is tetramethylorthocarbonate.
- 1 11. (Original) A fuel for a direct methanol fuel cell as in claim 10, wherein the fuel
2 comprises about 10 mole percent tetramethylorthocarbonate.
- 1 12. (Original) A fuel for a direct methanol fuel cell as in claim 11 further comprising
2 less than about .1% by weight of an indicating dye.
- 1 13. (Original) A fuel for a direct methanol fuel cell as in claim 12 where the indicat-
2 ing dye includes sulfonated activated carbon particles.
- 1 14. (Original) A fuel for a direct methanol fuel cell as in claim 1 wherein the addi-
2 tive is trimethylborate.
- 1 15. (Original) A fuel for a direct methanol fuel cell as in claim 14, wherein the fuel
2 comprises about 7 mole percent trimethylborate.
- 1 16. (Original) A fuel for a direct methanol fuel cell as in claim 15 further comprising
2 less than about .1% by weight of an indicating dye.
- 1 17. (Original) A fuel for a direct methanol fuel cell as in claim 16 where the indicat-
2 ing dye includes sulfonated activated carbon particles.
- 1 18. (Original) A fuel for a direct methanol fuel cell as in claim 1 wherein the addi-
2 tive is tetramethylorthosilicate.

- 1 19. (Original) A fuel for a direct methanol fuel cell as in claim 18, wherein the fuel
2 comprises about 5 mole percent tetramethylorthosilicate.
- 1 20. (Original) A fuel for a direct methanol fuel cell as in claim 19 further comprising
2 less than about .1% by weight of an indicating dye.
- 1 21. (Original) A fuel for a direct methanol fuel cell as in claim 20 where the indicat-
2 ing dye includes sulfonated activated carbon particles.
- 1 22. (Original) A fuel for a direct methanol fuel cell comprising:
2 methanol; and
3 at least one additive that undergoes a reaction with water to produce small mole-
4 cules that are easily electro oxidized selected from the group consisting of: di-
5 methyloxymethane, methylorthoformate, tetramethyl orthocarbonate, trimethyl
6 borate, and tetramethyl orthosilicate.
- 1 23. (Original) A fuel for a direct methanol fuel cell as in claim 22 further comprising
2 less than about .1% by weight of an indicating dye.
- 1 24. (Original) A fuel for a direct methanol fuel cell as in claim 23 where the indicat-
2 ing dye includes sulfonated activated carbon particles.
- 1 25. (Original) A fuel additive for a direct methanol fuel cell consisting essentially of
2 at least one additive that undergoes a rapid reaction with water to produce small mole-
3 cules that are easily electro oxidized selected from the group consisting of: dimethyloxy-
4 methane, methylorthoformate, tetramethyl orthocarbonate, trimethyl borate, and tetrame-
5 thyl orthosilicate; and an effective amount of an indicating dye.

- 1 26. (Original) A fuel for a direct methanol fuel cell comprising:
2 methanol, and
3 an effective amount of a metal hydride.
- 1 27. (Original) A fuel for a direct methanol fuel cell comprising:
2 methanol;
3 an effective amount of an additive that undergoes a reaction with water to produce
4 small molecules that are easily electro oxidized; and
5 an effective amount of a metal hydride.
- 1 28. (Original) A fuel for a direct methanol fuel cell comprising:
2 methanol; and
3 an effective amount of at least one additive that undergoes a reaction with water
4 to produce small molecules that are easily electro oxidized selected from the group con-
5 sisting of: dimethyloxymethane, methylorthoformate, tetramethyl orthocarbonate, tri-
6 methyl borate, and tetramethyl orthosilicate; and
7 an effective amount of a metal hydride.
- 1 29. (Withdrawn) A method for enabling the detection of fuel leaking from a fuel cell
2 comprising the step of adding a dye to the fuel.
- 1 30. (Withdrawn) A method for enabling detection of fuel leaking from the fuel cell
2 according to claim 29 where the dye comprises sulfonated activated carbon particles.
- 1 31. (Original) The method of preparing a fuel mixture for a direct methanol fuel cell
2 comprising the steps of:
3 a) providing a supply of concentrated methanol; and
4 b) adding an effective amount of at least one additive that undergoes a reac-
5 tion with water to produce small molecules that are easily electro oxidized

6 selected from the group consisting of: dimethyloxymethane, methylortho-
7 formate, tetramethyl orthocarbonate, trimethyl borate, and tetramethyl or-
8 thosilicate.

1 32. (Original) The method of preparing a fuel mixture for a direct methanol fuel cell
2 as in claim 30 further comprising the step of :

3 c) providing a supply of concentrated methanol; and
4 adding an effective amount of at least one metal hydride selected from the group consist-
5 ing of LiAlH_4 , NaBH_4 , LiBH_4 , $(\text{CH}_3)_2\text{NHBH}_3$, NaAlH_4 , B_2H_6 , NaCNBH_3 , CaH_2 , LiH ,
6 NaH , KH and sodium bis (2-methoxyethoxy) dihydridaluminate.